

On the evening of April 7, 1871, at 9.15, I obtained a very favourable view of the Zodiacal light, and described it as a very soft glowing light, quite as bright, if not brighter, than the Milky Way. The *Pleiades* were involved in it, and appeared to be in its axis, or nearly so. The northern boundary passed near the star γ *Persei*, and the southern boundary, close upon γ , δ , and ϵ *Tauri*. The apex, which appeared blunted and ill defined, extended to α *Tauri*, and was directed towards the planet *Jupiter*. *Aldebaran* was quite clear of the light. On the evening of the 10th of April, 1871, the form and character of the "light" were identically similar to the appearance which it presented on the 10th of April, 1850.

There are two very prominent features that present themselves in connexion with these observations. The position of the great mass of light being constantly north of the Ecliptic, and the apparent change in the *form* of the "light," or at least that portion of it which forms the apex of the luminous triangle or cone. This is very perceptible in the groups of observations, those in February presenting a narrower cone of light, the axis being very decidedly *inclined* to the Ecliptic, although the apex was seen more or less on or near the Ecliptic. This group of observations is in decided contrast with that of a month later—viz., March. By this time the cone of light had become larger, the apex more rounded, and the inclination of the axis to the ecliptic changed; the greatest extent of light being still northward of the Ecliptic. In April the progression of the widening of the cone was very apparent; if equal distances from the apex along the axis be taken for February, March, and April, and the breadth of the cone measured; as indicated by the position of the "light" among the neighbouring stars, the differences of the three sets are so distinct as to lead to the suspicion that we view the phenomenon differently as the Earth advances in her orbit from the point at which we beheld it in the winter months.

On a Remarkable Appearance during the Solar Eclipse, Dec. 22, 1870. By R. W. H. Hardy, Commander R.N.

I have seen no account in any of the published reports of the late Solar eclipse of a remarkable appearance which attended it, and which was witnessed by the Rev. Henry H. Winwood, M.A., of Bath, and by myself from my Garden Observatory.

Some time after the commencement of the eclipse the sky here became partially overcast with two strata of cirrous clouds arranged at different elevations, one above the other. The lower stratum was much broken, leaving larger spaces bare. But neither of these strata offered any serious obstruction, for a considerable time, to our observation of the eclipse.

A few minutes—three or four, as nearly as I can remember—before the central epoch, the attention of Mr. Winwood and myself was drawn to a coloured patch which appeared, at the distance eastward from the Sun of about 15° , and which seemed to be stationary. The space occupied by it might be from its margin nearest the Sun, about 30° towards the East, and spreading to double that angular space N. and S.

The marginal portions next the Sun presented a lively ruddy tint, then melting into an orange tint, blended with a green and dark purple, in succession, proceeding eastward, and to the N. and S. Green however was the prevailing tint, and covered a much larger space than the other. Indeed, it seemed to be everywhere in the patch mixed with them, and to give them a muddy hue. These colours attained their greatest vividness about the time of the central phase of the eclipse. It soon after that began to fade in brightness, but to become more dark, especially towards the South-west. At $12^h 10^m$ or $12^h 15^m$ G.M.T. the clouds thickened, and we saw no more of the coloured patch, or even of the Sun, till about 2 P.M., when nothing remained of the former but a degree of obscurity towards E. and S.E.

I can hardly believe that this remarkable feature of the Solar eclipse, connected, as it would seem to be, with the Moon's shadow, was visible to only two private observers in our locality.

Kilkenny House, Sion Hill, Bath, 27th March, 1871.

P.S. Had the shadow of the Moon fallen upon the Earth instead of on the cloud, we should not have been able to perceive it, by reason of the distance from us at which it would have fallen.

A further communication has since been received as follows:—

In reference to the account I lately sent of the appearance of a coloured phenomenon seen by Mr. Winwood and myself in Bath, about the time of the central phase of the solar eclipse of December last, and which colours covered a considerable space on an upper stratum of cirrus clouds extending to the south-east of the Sun's apparent place, I omitted to call attention to a similar coloured phenomenon witnessed by Mr. Glaisher on his balloon ascent from Wolverhampton on August 18, 1862, and which he thus describes: "On looking over the side of the car, the shadow of the balloon *on the clouds* was observed to be surrounded by a kind of corona tinted by prismatic colours." Vide Glaisher's *Travels in the Air*, p. 49, published 1870. The italics are mine.

Now, if for *balloon* we substitute the word *Moon*, and *vice versa*, the two cases will be found to be strictly analogous. For if both phenomena could have been witnessed from the Earth at the same time, it cannot be doubted, I think, that the identity of *cause and effect* would at once have been recognised. I further beg to state that all shadows of opaque bodies in Sun-light are

characterised by similar coloured phenomena, and which, so far as I know, all writers on optics and on harmony of colour have hitherto failed to notice. And yet it requires only a superficial observation to perceive them at and near the borders of the shadows of houses, even in the streets of London, on a sunny day.

Kilkenny House, Sion Hill, Bath, 21st April, 1871.

On the Zodiacal Light. By Josiah Rees, F.R.A.S.

(*Extract of a Letter from the Rev. W. A. Jevons.*)

The following is an extract from a letter received by me from the Rev. W. A. Jevons, of Liverpool, giving an account of an appearance in the heavens observed by him on the evening of Good Friday last at Buxton:—

Extract.—"We think we saw the Zodiacal light on Good Friday evening. When we first observed it, it was as nearly as I can tell (for my watch was slow) about 7^h 4^m, and it lasted about five minutes. It was a little to the N. of where the Sun had set behind a hill, and the ray of light was nearly perpendicular, and as nearly as I could guess without means of measurement, about a degree broad and five degrees long."

6 Fig Tree Court, Temple, E.C., April 11th, 1871.

Theoretical Considerations respecting the Corona. By Richard A. Proctor, B.A., Cambridge. In Two Parts. Part I.

It may be questioned whether we are yet in a position to theorise safely respecting the Corona; yet I feel that I need offer no apology for entering here upon the analysis of the evidence now available on the subject, with the object of determining towards what hypotheses that evidence appears to tend. Having lately had occasion, while preparing my treatise upon the *Sun*, to go through the principal records of former eclipses, I shall be able to avoid the mistake of giving *undue* weight to observations lately made;—that is, of giving them a value founded rather on their recentness than on their specific importance. It has always seemed to me specially necessary, if one could theorise safely, to attach proper weight to *all* the known facts; and I have sometimes been led to believe that the want of success with which, as a rule (save in a few highly exceptional cases) observers theorise on their special subjects, is to be looked for in the fact that their own observations acquire an exaggerated importance in their minds, the labours of others being unduly, though quite honestly under-